

# 2000 Consumer Confidence Report



A public service provided by the City of San  
Bruno, the Peninsula City of Choice in  
which to live, learn, work, shop and play.

# Where Our Water Comes From

## *(Sources of Our Water)*

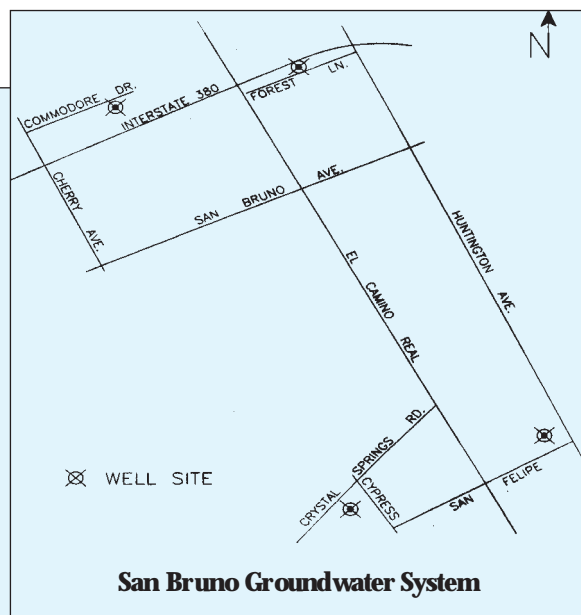
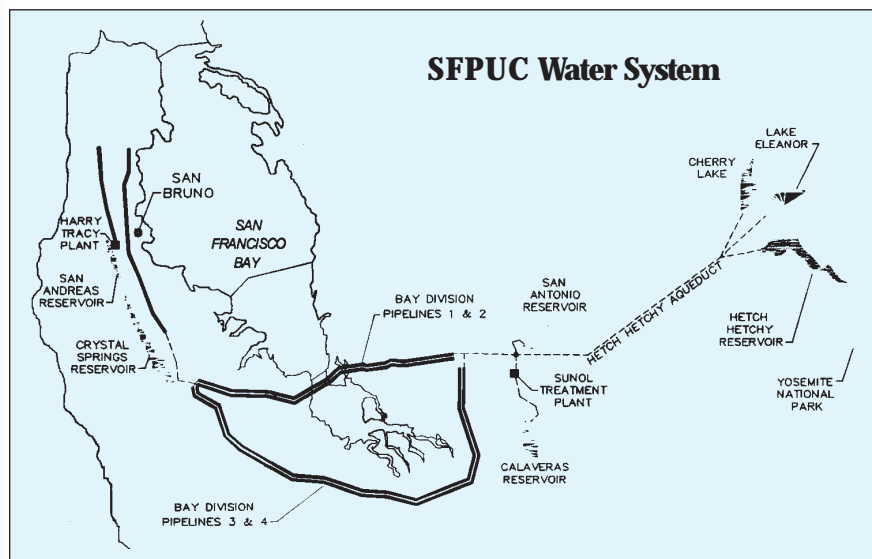
The City of San Bruno is pleased to present its 2000 Annual Water Quality Report (Consumer Confidence Report). We want our customers to know where our drinking water comes from, how it is treated to make it safe and healthy, and the results of water quality monitoring performed by San Bruno City staff (City) and the San Francisco Public Utilities Commission (SFPUC). With this knowledge, customers can make informed health decisions concerning water use for themselves and their families. During 2000, the City and SFPUC monitored water quality, both source and treated water supplies, and in all cases the maximum contaminant levels (MCLs) and treatment standards established by Federal and State water quality standards have been met. The City continues its commitment to provide you with safe, high quality drinking water.

The supply of water for the City of San Bruno is derived from two (2) primary sources, surface water and deep

wells, which are blended throughout the distribution system. San Bruno produced well water is from deep wells located within the City that currently produce more than one-half of our needs.

Water purchased from the San Francisco Public Utilities Commission (SFPUC) Hetch Hetchy system consists of surface flows which originate in the snow capped peaks of Yosemite National Park and the

Stanislaus National Forest. Because this source is located in mountain wilderness with limited human access, the quality and purity of this water is consistently high. This water is stored in a system of reservoirs in the Sierras, and is transported 150 miles across the San Joaquin Valley and through the Coast Range mountains via a series of pipelines and tunnels to the Bay Area.



# How Do We Know Our Water Is Safe to Drink?

## **WATER QUALITY**

Water quality is extremely important to the staff of the City of San Bruno Public Works Department. The Department's Water Division employees are State Health Department certified Grade 1 and 2 Water Treatment Operators, and the Water Services Manager is a Grade 3 Water Treatment Operator. The Water Division maintains a laboratory and conducts or supervises more than 600 analyses of water samples each year. The staff samples daily from supply sources, treatment facilities and distribution systems throughout your service area. Using state-of-the-art laboratory equipment capable of measuring minute quantities of contaminants in the parts per million range, samples are analyzed on a routine basis to insure that compliance standards are met and maintained. Additional samples are delivered to a contracted State-certified independent laboratory for further analysis. You can be assured that your water consistently meets or exceeds established quality standards.

**SOURCE PROTECTION** is the primary barrier, the first line of defense against contamination of your drinking water at its source. SFPUC maintains a comprehensive watershed control and management program to protect source water. The Hetch Hetchy Reservoir water supply meets all Federal and State criteria for watershed protection, disinfection treatment, bacteriological quality and operation standards. SFPUC controls activities on the watershed lands around their reservoirs, limiting activities to those compatible with maximum protection of the water quality. As a result, the U.S. Environmental

Protection Agency granted the Hetch Hetchy water source a filtration exemption so that water from this source does not require filtration treatment to ensure its safety. SFPUC monitors Hetch Hetchy weather conditions, water turbidity levels, coliform bacteria levels, pathogens and parasite concentrations.

SFPUC also complies with disinfection, sampling and reporting requirements, as well as conducting regular inspections of the protected Hetch Hetchy watershed and reservoirs.

San Bruno's groundwater is drawn from a deep aquifer more than 200 feet below the surface. It is well protected from contamination by impermeous lenses of clay deep in the ground. Contaminants borne by surface water and shallow groundwater that eventually reach the aquifer are well filtered by the soil layers over several centuries of time before it reaches the well locations. The wells themselves are constructed to meet strict standards imposed by San Mateo County Environmental Health Division and the California Department of Health Services to ensure that no surface water or shallow groundwater can enter the aquifer at those points. In cooperation with the San Mateo Environmental Health Division, San Bruno participates in a wellhead protection program established to ensure the long-term protection of the quality of San Bruno's ground-water resource.

**WATER TREATMENT** is the next protective barrier. Our well water is injected with sodium hypochlorite solution at the well head to insure proper disinfection. Also, our well water is sampled to insure the health and safety of our consumers. In addition, our Forest Lane Well is equipped with a

filtering plant to remove iron and manganese and adjust pH levels prior to distribution to our customers. This is to insure that water from this particular well meets or exceeds all Secondary Drinking Water Standards as set by the State Department of Health Services.



## **EFFECTIVE OPERATION AND**

**MAINTENANCE** of the distribution system assures that the water maintains its quality as it travels through the system to your tap. The residual chlorine in the water after treatment prevents the regrowth of microbial organisms during storage and transmission of water in the distribution system. The flushing of our water mains and rotation of stored supplies also keeps the water fresh and limits the possibility for growth of such organisms. San Bruno conducts mandatory weekly water quality testing of the distribution system to insure that the City's drinking water continues to be safe and healthy.

San Bruno also maintains an active cross connection control program to help prevent the intrusion of potentially harmful materials into the drinking water system. Cross connection control is done by isolating hazards (boilers, cooling towers, fire sprinklers, etc.) from the drinking water supply by installing approved backflow prevention devices.



# How Do Drinking Water Sources Become Polluted?

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

**MICROBIAL CONTAMINANTS** such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural live stock operations and wildlife.

**INORGANIC CONTAMINANTS** such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.

**ORGANIC CHEMICAL CONTAMINANTS** including synthetic and volatile organics, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff and septic systems.

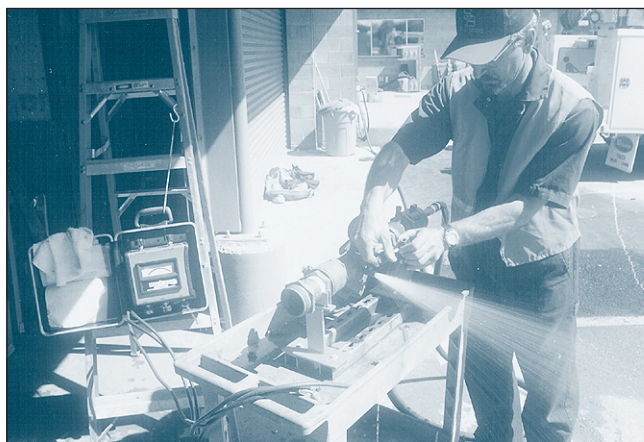
**RADIOACTIVE CONTAMINANTS** which can be naturally-occurring or be the result of oil and gas production and mining activities.

**PESTICIDES AND HERBICIDES** which may come from a variety of sources such as agricultural, urban stormwater runoff and residential uses.

In order to insure that tap water is safe to drink, the U.S. Environmental Protection Agency (EPA) and the California Department of Health Services (DHS) prescribe regulations which limit the amount of certain contaminants in water provided by

public water systems. DHS regulations also establish limits for contaminants in bottled water which must provide the same protection for public health.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care



providers. EPA/Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791) or on U.S. EPA's web site [www.epa.gov/safewater/hfacts.html](http://www.epa.gov/safewater/hfacts.html).

**UNREGULATED CONTAMINANT MONITORING** Unregulated contaminant monitoring helps the EPA and DHS to determine where certain contaminants occur and whether the contaminants need to be regulated. During 2000, the SFPUC monitored for twelve unregulated contaminants including MTBE, perchlorate, herbicides, and pesticides. These contaminants were not detected in any of the SFPUC supplies.

## **CHLORAMINE CONVERSION WILL PROVIDE AN INCREASED LEVEL OF PROTECTION FOR OUR WATER**

In coordination with the SFPUC, San Bruno is continuing its progress in implementing a system wide conversion from liquid chlorine to chloramine as a drinking water disinfectant. Chloramine, which involves the addition of chlorine and ammonia, is a proven disinfectant method used by most major drinking water utilities in the Bay Area and California. The switch to chloramination will reduce the formation of disinfection byproducts, provide increased protection from bacterial contamination, and may improve taste and odor in the water supply.

The target date to complete the conversion to chloramine is in the summer of 2003. The SFPUC and San Bruno will conduct a comprehensive public awareness program beginning in the summer of 2002. The environmental review process has been completed and has gained input and approval from the regulatory agencies. Currently, engineering design of facilities

needed for the chloramine conversion is underway. The SFPUC will continue to update SFPUC-supplied water agencies on the progress of the chloramine conversion project.

Although the use of chloramines will improve water quality, some water customers will need to take special precautions. Chloramine is toxic to pet fish and has the potential to be toxic to kidney dialysis patients. Therefore, these special users will need to remove the chlorine and ammonia from the water prior to use. As part of the comprehensive public awareness program, the SFPUC and San Bruno will tailor a specific educational program targeting specific audiences such as kidney dialysis patients and fish owners, as well as the general public.

Public education campaigns will include consumer mailings, distribution of fact sheets and brochures, advertisements in newspapers, radio and television, community meetings and personal coordination with specific facilities. The SFPUC and San Bruno will conduct the educational outreach for one year prior to the actual implementation of the chloramine conversion.

#### **WHAT YOU SHOULD KNOW ABOUT CRYPTOSPORIDIUM AND GIARDIA**

Cryptosporidium, a parasitic microbe found in most surface water supplies, can pose a potential health threat. If swallowed, it may produce cryptosporidiosis, with symptoms of diarrhea, stomach cramps, upset stomach, and slight fever. Some people are more vulnerable to Cryptosporidium than others and should seek advice about types of drinking water from their health care providers.

The SFPUC tests for Cryptosporidium in both source and treated water supplies at least quarterly. The SFPUC occasionally (about 19 percent of the time) detects low levels of Cryptosporidium in the Hetch Hetchy, East Bay, and San Francisco Peninsula source (untreated) waters at an overall average level of 37 Cryptosporidium/100 liters of water.

Giardia, a parasitic microbe found in most surface water supplies, can also pose a potential health threat. If swallowed, it can produce the same symptoms as Cryptosporidium. The SFPUC tests for Giardia in both source and treated water at least quarterly. The SFPUC occasionally (about 23 percent of the time) detects low levels of Giardia in the Hetch Hetchy, East Bay, and San Francisco Peninsula source (untreated) waters at an overall average level of 12 Giardia/100 liters of water.

Drinking water, including bottled water, may reasonably be expected to contain at least minute amounts of some contaminants including

Cryptosporidium and Giardia. The presence of small amounts of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

**LEAD AND COPPER** Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested. It is also rec-

ommended that homeowners who are concerned about elevated lead levels run their tap 30 seconds to 2 minutes before use. Additional information is available from the Safe Drinking Water Hotline (800-426-4791).

San Bruno has tested for lead and copper in the city water supply since 1992 as part of the Lead and Copper Rule monitoring program. Over 30 volunteers took water samples at the tap in their homes, which were then analyzed for lead and copper content as well as for the corrosive nature of the water. It should be noted that the water San Bruno delivers to its customers does not contain lead, but it may acquire lead from older soldered pipe joints in household plumbing.

## **Important definitions for understanding this Water Quality Report**

The following definitions are for each contaminant analyzed:

**PUBLIC HEALTH GOAL OR PHG** The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are enforceable targets set by the California Environmental Protection Agency.

**MAXIMUM CONTAMINANT LEVEL GOAL OR MCLG** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's are set by the U.S. Environmental Protection Agency (U.S. EPA).

**MAXIMUM CONTAMINANT LEVEL OR MCL** The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs and MCLGs as is economically or technically feasible. Secondary MCLs are set to protect odor, taste, and appearance of drinking water.

**PRIMARY DRINKING WATER STANDARD** MCLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

**VARIANCES AND EXEMPTIONS** State or EPA permission not to meet an MCL or a treatment technique under certain conditions. Neither San Bruno nor the SFPUC has any variance or exemption for MCL's.

**TREATMENT TECHNIQUE** A required process intended to reduce the level of a contaminant in drinking water.

**REGULATORY ACTION LEVEL (AL)** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

**WAIVER** State permission to decrease the monitoring frequency for a particular contaminant.



## 2000 ANNUAL WATER QUALITY REPORT

DETECTED CONTAMINANTS	Unit	PHG	MCLG	MCL	San Bruno Well Water		MAJOR SOURCES IN DRINKING WATER
					Range	Average	
PRIMARY DRINKING WATER STANDARDS							
DISINFECTION BY-PRODUCTS (DBPs)							
Total Trihalomethanes (TTHMs) - City of San Bruno Distribution System	ppb	NS	NS	100	27.5-86.6	55.4	By-product of drinking water chlorination
RADIONUCLIDES							
Gross Alpha particle	pCi/L	NS	0	15	0.1-1.0	0.38	Erosion of natural deposits
Gross Beta particle	pCi/L	NS	0	50	0-3	1.5	Erosion of natural deposits; decay of natural and man-made deposits
INORGANIC CHEMICALS							
Nitrate (as NO <sub>3</sub> )	ppm	45	45	45	<0.1-8.5	4.4	Run-off and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
LEAD AND COPPER RULE STUDY	UNIT	PHG	MCLG	AL	90th Percentile Level		
Copper - City of San Bruno Tap Water	ppm	0.17	NS	1.3	0.13	Corrosion of household plumbing systems, erosion of natural deposits, leaching from wood preservatives	
Lead - City of San Bruno Tap Water	ppb	2	NS	15	2.8	Corrosion of household plumbing systems, erosion of natural deposits	
Action Level(AL). The last round of samples were collected in April 1999. 35 sites were tested for lead and copper and all samples were below the action levels.							

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SECONDARY MAXIMUM CONTAMINANT LEVELS - Consumer Acceptance Limits							
Chloride	ppm	NS	NS	250	29-107	75	Run-off/leaching from natural deposits; seawater influence
Color	unit	NS	NS	15	2-5	3	Naturally-occurring organic materials
Iron	ppm	NS	NS	0.3	<0.05	<0.05	Leaching from natural deposits; industrial wastes
Manganese	ppm	NS	NS	0.05	<0.01	0.05	Leaching from natural deposits
Odor Threshold	TON	NS	NS	3	1-5	3	Naturally-occurring organic materials
Specific Conductance	µS/cm	NS	NS	900	470-830	665	Substances that form ions when in water; seawater influence
Sulfate	ppm	NS	NS	250	20-75	49	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (TDS)	ppm	NS	NS	500	250-464	370	Runoff/leaching from natural deposits

ADDITIONAL CONSTITUENTS ANALYZED						
Alkalinity (as CaCO <sub>3</sub> )	ppm	NS	NS	NS	130-192	160
Calcium	ppm	NS	NS	NS	32-81	52
Hardness (as CaCO <sub>3</sub> )	ppm	NS	NS	NS	152-284	222
Magnesium	ppm	NS	NS	NS	18-35	23
pH	unit	NS	NS	NS	6.9-7.6	7.4
Potassium	ppm	NS	NS	NS	3.4-4.3	3.9
Silica	ppm	NS	NS	NS	25-30	27.5
Sodium	ppm	NS	NS	NS	36-53	46

**NOTE:** These additional constituents do not affect health. They are tested because they can affect color, taste and/or odor of water.

### Footnotes:

- Methyl-tert-Butyl Ether (MTBE) was tested at all City Wells on a quarterly basis in 2000 and none was detected.
- Trichloroethylene (TCE) was tested at all City Wells on a quarterly basis in 2000 and none was detected.
- Total coliform samples were collected on a weekly basis throughout the distribution system.

We collected a total of 676 samples in 2000 and all tested negative.

# Additional SFPUC Water Quality Data 2000 <sup>(1) (2)</sup>

DETECTED CONTAMINANTS	Unit	MCL <sup>(3)</sup>	PHG <sup>(4)</sup> (MCLG <sup>(5)</sup> )	Range	Average	Typical Sources in Drinking Water
<b>Turbidity (SFPUC Treated Water)</b>						
Turbidity <sup>(6)</sup> - Tesla Portal (Hetch Hetchy Water)	NTU	5 <sup>(7)</sup>	N	0.18 - 0.64	0.28	Soil run-off
Turbidity <sup>(6)</sup> - Harry Tracy Water Treatment Plant	NTU	0.5 <sup>(8)</sup>	N	0.05 - 0.29	0.10	Soil run-off
Turbidity <sup>(6)</sup> - Sunol Valley Water Treatment Plant	NTU	0.5 <sup>(8)</sup>	N	0.04 - 0.09	0.06	Soil run-off
<b>INORGANIC CHEMICALS (Source Waters)</b>						
Aluminum <sup>(12)</sup>	ppb	1000	N	<50 - 64	<50	Erosion of natural deposits
Chlorate <sup>(11)</sup>	ppb	NS	N	<20 - 27	<20	By-product of drinking water chlorination
Natural Fluoride <sup>(12)</sup>	ppm	2	1	<0.1 - 0.2	<0.1	Erosion of natural deposits
<b>ORGANIC CHEMICALS (SFPUC Transmission System)</b>						
Total Halocetic Acids (HAAs) <sup>(9)</sup>	ppb	NS	N	7 - 46	21	By-product of drinking water chlorination
Total Halocetonitriles (HANs) <sup>(9)</sup>	ppb	NS	N	0.9 - 6	3	By-product of drinking water chlorination
Total Haloketones (HKs)/Chloropicrin (CP) <sup>(9)</sup>	ppb	NS	N	<0.5 - 5	2	By-product of drinking water chlorination
Total Aldehydes <sup>(9)</sup>	ppb	NS	N	<1 - 19	10	By-product of drinking water chlorination
Total Organic Halides (TOX) <sup>(9)</sup>	ppb	NS	N	110 - 222	146	By-product of drinking water chlorination

	Unit	SMCL <sup>(3)</sup>	Range	Average
<b>Secondary Standards - Source Water <sup>(12)</sup></b>				
Iron	ppb	300	<100 - 120	<100
Chloride	ppm	500	<3 - 19	11
Specific Conductance	µS/cm	1600	9 - 340	190
Sulfate	ppm	500	<0.5 - 30	13
Total Dissolved Solids (TDS)	ppm	1000	21 - 170	110
<b>Secondary Standards - Treated Water <sup>(10)</sup></b>				
Aluminum	ppb	200	<50 - 59	<50
Color	unit	15	<5 - 14	<5
Odor Threshold	TON	3	2	2

OTHER CONSTITUENTS - Treated Water <sup>(10) (13)</sup>	Unit	SMCL <sup>(3)</sup>	Range	Average
Alkalinity (as CaCO <sub>3</sub> )	ppm	NS	11 - 122	60
Calcium	ppm	NS	4 - 27	15
Fluoride - SFPUC Transmission System	ppm	NS	0.1 - 1.3	0.8
Hardness (as CaCO <sub>3</sub> )	ppm	NS	9 - 132	59
Magnesium	ppm	NS	<0.5 - 9	5
pH	Units	NS	7.4 - 9.8	9.0
Potassium	ppm	NS	<0.5 - 1	0.7
Silica	ppm	NS	5 - 10	7
Sodium	ppm	NS	3 - 22	14

## Key:

< - less than  
 HTWTP-Harry Tracy Water Treatment Plant  
 ppb -parts per billion  
 ppm -parts per million  
 NS - No Standard  
 N - None  
 NTU -Nephelometric Turbidity Unit  
 SWWTP-Sunol Valley Water Treatment Plant  
 µS/cm - microSiemens/centimeter  
 TON - threshold odor number

## WHAT DOES THIS TABLE MEAN

This table shows the results of SFPUC water quality analyses for 2000 . It contains the name of each substance, the highest level allowed by regulation (MCL), the ideal goals for public health (PHG), the amount detected, the typical sources, footnotes explaining our findings and a key to units of measurement.

(1) Set forth in 40 CFR Parts 141 and 142 National Primary Drinking Water Regulation and California Code of Regulations, Title 22 Section 116470.

(2) All results met State and Federal drinking water regulations.

(3) Maximum Contaminant Level (MCL) and Secondary Maximum Contaminant Level (SMCL) set by U.S. EPA/DHS.

(4) Public Health Goal adopted by the State Office of Environmental Health Hazard Assessment (OEHHA) of the California EPA.

(5) Maximum Contaminant Level Goal set by U.S. EPA.

(6) Turbidity is the water clarity indicator; it also indicates the quality of the water and the treatment system efficiency.

(7) The turbidity standard for unfiltered supplies is 5 NTU.

(8) Filtered water turbidity must be less than 0.5 NTU 95% of the time. Both SFPUC plants met this standard 100% of the time.

(9) Based on data collected in 2000 at Alameda East Portal, SWWTP, and HTWTP except for Total Organic Halides (TOX) which was collected in 1998.

(10) Data obtained from Alameda East Portal, Sunol Valley, and Harry Tracy Water Treatment Plants.

(11) Data obtained from Calaveras, San Antonio, and San Andreas Reservoirs.

(12) Data obtained from Hetch Hetchy, Calaveras, San Antonio, Lower Crystal Springs, San Andreas Reservoirs, Pilarcitos, and Stone Dam.

(13) Note that arsenic, chromium, perchlorate, and MTBE were not detected in the source or treated water.

# How Can the Public Be Involved?



All photographs courtesy of Kelly Alcalá © 2000.

Meetings of the City of San Bruno City Council begin at 7:00 PM on the second and fourth Tuesdays of each month and are open to the public. Meetings are held at the San Bruno Senior Center located at 1555 Crystal Springs Rd.

If you have any questions or need further information, please feel free to contact the City of San Bruno Water Division at (650) 616-7162, or by mail at City of San Bruno Water Division, 567 El Camino Real, San Bruno, CA 94066-4247.

Decisions about SFPUC water quality issues are made from time to time in public meetings held at San Francisco City Hall, 1 Doctor Carlton B. Goodlett Place, Room 400, San Francisco CA 94102. Inquiries about these meetings may be directed to the Office of the Commission Secretary at (415) 554-3165. Additional information about the SFPUC water quality may be obtained by calling (877) 737-8297. Or, feel free to reach them on their web site [www.ci.sf.ca.us/puc/](http://www.ci.sf.ca.us/puc/)

This report contains important information about your drinking water. Translate it, or speak with someone who understands it.

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.

Mahalaga ang impormasyong ito. Mangyaring ipasalin ito.

此份有关你的食水报告,内有重要资料和讯息,请找 他人为你翻译及解释清楚。

**City of San Bruno**  
**Public Works Department**  
**Water Division**

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